



# UNITED STATES PATENT AND TRADEMARK OFFICE

201  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,874	06/20/2003	Chen-Hsiung Lee	SJO990216US1	6655
7590	07/26/2004			EXAMINER RENNER, CRAIG A
David W. Lynch CRAWFORD MAUNU PLLC Suite 390 1270 Northland Drive St. Paul, MN 55120			ART UNIT 2652	PAPER NUMBER
DATE MAILED: 07/26/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,874	LEE, CHEN-HSIUNG	
	<b>Examiner</b>	<b>Art Unit</b>	
	Craig A. Renner	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 20 June 2003.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-6 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 20 June 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/20/2003.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on 20 June 2003. These drawings are accepted.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In line 5 of claim 1, it is indefinite as to whether "the air bearing" refers to that set forth in lines 1-2 of claim 1, or that set forth in line 4 of claim 1.

- b. In line 6 of claim 1, it is indefinite as to whether "the motor" refers to that set forth in line 2 of claim 1, or that set forth in line 3 of claim 1.

- c. Many elements in the claims are indefinite because they lack clear and/or positive antecedent basis including "the spindle and disk" (line 6 of claim 1) and "the journal" (line 2 in each of claims 2 and 3).

- d. Claims 4-6 inherit the indefiniteness associated with independent claim 1 and stand rejected as well.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Dunfield et al. (US 5,956,204).

Dunfield et al. (US 5,956,204) teach a method for providing magnetic wear debris (78) collection for an air bearing (line 28 in column 1, for instance) of a spindle motor (includes 18 and 20) in a hard disk drive (10), comprising providing a spindle motor (includes 18 and 20) comprising a hub (includes 20); providing an air bearing (line 28 in column 1, for instance) for a journal bearing (includes 54) radially supporting the hub; positioning a magnetic ring (80) in a position proximate to the air bearing (as shown in Fig. 4, for instance); and as the motor is activated to spin the spindle and disk, accumulating debris (78) at the magnetic ring (as shown in Fig. 4, for instance) [as per claim 1]; wherein the method further comprises providing a thrust bearing (includes 64) to axially support the hub [as per claim 4]; and wherein the thrust bearing comprises an air bearing (line 28 in column 1, for instance) [as per claim 6].

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunfield et al. (US 5,956,204).

Dunfield et al. (US 5,956,204) teach the method as detailed in paragraph 5, supra, further wherein the method further comprises providing a mating surface to the journal comprising a mating surface material (as shown in Fig. 2, for instance), and wherein the thrust bearing comprises a fluid bearing. Dunfield et al. (US 5,956,204), however, remain silent as to the journal mating surface material being "paramagnetic" as per claim 2, the journal mating surface material being "ferromagnetic" as per claim 3, and the thrust bearing fluid being "oil".

Official notice is taken of the fact that paramagnetic and ferromagnetic materials are notoriously old and well known journal mating surface materials. Official notice is also taken of the fact that oil is a notoriously old and well known thrust bearing fluid. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the journal mating surface material of Dunfield et al. (US 5,956,204) be paramagnetic, the journal mating surface material of Dunfield et al. (US 5,956,204) be ferromagnetic, and the thrust bearing fluid of Dunfield et al. (US 5,956,204) be oil. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the journal mating surface material of Dunfield et al. (US 5,956,204) be paramagnetic, and the journal mating surface material of Dunfield et al. (US 5,956,204) be ferromagnetic since such are notoriously old and well known journal mating surface materials in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art, *In re Leshin*, 125 USPQ 416 (CCPA 1960).

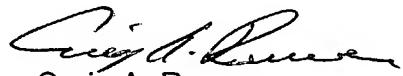
One of ordinary skill in the art would have been motivated to have had the thrust bearing fluid bearing of Dunfield et al. (US 5,956,204) be oil since such is a notoriously old and well known thrust bearing fluid in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art. See *In re Leshin*, supra.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (703) 308-0559. The examiner can normally be reached on Tuesday-Friday 7:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Renner  
Primary Examiner  
Art Unit 2652

CAR